

CLAIMS

What is claimed is:

1. A method for clearly generating a playback sound in an electronic device including a
5 CPU and a speaker, the method comprising the steps of:

dynamically altering a CPU interrupt signal in accordance with a sound data that is
read from a CPU memory; and

emitting to a speaker of the electronic device said sound data obtained in connection
with said CPU interrupt signal, wherein the timing between said sound data and the timing
10 of said CPU interrupt signal are made to agree with each other to provide a clear playback
sound.

2. A method for generating clear playback sound in an electronic device including a CPU
and a speaker, the method comprising the steps of:

15 dynamically altering a period of a CPU interrupt signal in accordance with a period
of the sound data that is read from a CPU memory; and

emitting to the speaker said sound data obtained in connection with said CPU
interrupt signal, wherein the timing between said sound data and the timing of said CPU
interrupt signal are made to agree with each other to provide a clear playback sound.

20 3. The method for generating playback sound according to claim 2, wherein in said
altering step the period of the CPU interrupt signal is dynamically altered in

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correspondence with a period T of said sound data, the period of the CPU interrupt signal is dynamically altered, and the period t of said CPU interrupt signal is dynamically altered to T/n where $n = 2, 3, \dots$

- 5 4. The method for generating playback sound according to claim 2, wherein in said altering step

the period of the CPU interrupt signal is dynamically altered in correspondence with period T of said sound data,

the period t of said CPU interrupt signal is dynamically altered to $T/2$.

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5. A method for clearly generating a clear playback sound, in an electronic device including a CPU, a timer unit and a speaker, the method comprising the steps of:

reading image data and audio data under CPU control, and

in accordance with said read audio data, generating by said

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timer unit a CPU interrupt signal which is controlled;

dynamically altering said interrupt signal;

emitting to the speaker said sound data obtained in accordance with said CPU

interrupt signal, wherein the timing between said sound data and the timing of said CPU

interrupt signal are made to agree, the burden on the CPU is reduced, and a playback sound

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is generated from the speaker.

6. An electronic device comprising:

a timer unit that generates a CPU interrupt signal,
a CPU that specifies sound data by the timing of said interrupt signal,
a D/A converter that changes said sound data to an analog signal, and
a speaker that emits sound that corresponds to said analog signal;

5 said CPU controlling said timer means in accordance with a period of said sound
data, dynamically altering a period of said CPU interrupt signal, causing a switching timing
of said sound data and the period of said CPU interrupt signal to agree, and generating a
clear playback sound.

10 7. The electronic device according to claim 6, wherein

the period of said CPU interrupt signal is dynamically altered to T/n (where $n = 2, 3, \dots$) with respect to period T of said sound data.

15 8. The electronic device according to claim 7, wherein

the period of said CPU interrupt signal is dynamically altered to $T/2$.

9. An electronic device comprising:

a clock unit;

a CPU;

20 a down-counter;

a timer unit connected to said clock unit and generates an interrupt signal using said
down-counter;

an interrupt controller connected to said timer unit;
said CPU being connected to said interrupt controller;
a bus controller connected to said CPU;
a D/A converter connected to said bus controller;
5 an amplification unit connected to said D/A converter;
a speaker connected to said amplification unit; and

an electronic means causing said CPU to control said down-counter based on the
period of the sound data, generate said interrupt signal, determine the sound data based on
said interrupt signal, emit the sound data via said bus controller and said amplification unit
10 to said speaker, and generate a clear playback sound.

10. The electronic device according to claim 9, wherein said CPU
dynamically alters the period t of said interrupt signal to T/n (where $n = 2, 3, \dots$)
when the period of said sound data is T .

15 11. The electronic device according to claim 10, wherein said CPU
dynamically alters the period t of said interrupt signal to $T/2$ when the period of said
sound data is T .

20 12. The electronic device according to claim 9, which
is a portable electronic device that is detachably connected to a parent machine and
can play a game independently when detached from said parent machine.

13. An entertainment system comprising a portable electronic device which is a child machine that is detachably mounted to a parent machine, and an interface for making an electrical connection to said parent machine,

5 said portable electronic device comprising:

 a CPU;

 a timer that generates a CPU interrupt signal;

 said CPU specifying a sound data by the timing of said interrupt signal;

 a D/A converter that converts said sound data to an analog signal; and

10 a speaker that emits sound corresponding to said analog signal.

14. The entertainment system as described in claim 13, which

 dynamically alters the period of said CPU interrupt signal to T/n (where T is a period of the sound data and $n = 2, 3, \dots$).

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